No degree needed; Social scientist says recruiting public a way for researchers to scale up climate change projects

The Toronto Star

July 30, 2019 Tuesday

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Section: NEWS; Pg. A3

Length: 822 words

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Body

Becoming a citizen scientist is a hands-on way to track the consequences of climate change - and you don't need an advanced degree in plant biology or climate modelling to get started.

The only requirements are enthusiasm, a commitment to learn and some time, in whatever chunks you can give.

And with an ever-growing number of climate-related citizen science projects in Canada, it's easy to get involved, no matter whether you live in a downtown apartment or near the edges of a sprawling forest.

Chris Lemieux, a conservation social scientist at Wilfrid Laurier University, says recruiting the public to help study climate change is a relatively low-cost way for scientists to scale up their research projects. It allows them to gather more data from a bigger geographical area than any one person or small team could do on their own. Studies that have relied on data collected by citizens have revealed critical trends in climate change.

Equally important, citizen science creates communities of like-minded people and provides practical ways to act on climate change, which can help alleviate eco-anxiety. Lemieux says the long-term goal of climate-themed citizen science projects is to motivate people to become climate change ambassadors. That means sharing their first-hand observations of climate change, adopting more environmentally friendly lifestyles and pushing for system-wide climate action.

"The quote I most like to use comes from Sir David Attenborough, the famous broadcaster, who said: 'No one will protect what they don't care about; and no one will care about what they have never experienced.'"

If you want to become a citizen scientist, Lemieux recommends doing a bit of research before getting started. It's important, he says, to find a project that best suits your interests, time constraints, resources and physical abilities. Plus, it has to be fun.

Here are five climate-themed citizen science projects to check out.

The Audubon Christmas Bird Count

Known as the longest-running community science project, this annual event has been in bird-lovers' calendars since 1900. In the first year, 27 people counted bird species on a single winter day in more than two dozen communities, including Toronto. In its 118th season, the Audubon Society logged 2,585 species from Canada, the U.S., Latin America, the Caribbean and the Pacific Islands. Data from the Christmas Bird Count has informed scientific research, including a sweeping 2014 report by the Audubon Society, which looked at how climate change affects the ranges of North American bird species.

iNaturalist

This social network powered by a free smartphone app can turn anyone into a top-notch naturalist able to identify just about any kind of wildlife. Users snap photos with their phone, use the app to figure out the species, then upload details of their find to the iNaturalist website. Data from the app, which was launched in Canada in 2015, has been used in hundreds of scientific studies. Ontario Parks has partnered with iNaturalist and encourages park-goers to use the app to identify species within provincial parks. So far, people have made more than 122,000 observations in Ontario Parks, identifying more than 5,800 species.

RinkWatch

Launched in 2013, this project recruits people to monitor ice conditions on backyard and community rinks and ponds. It's free to join and participants use the website to record the daily skating conditions of their rinks. Environmental scientists from Wilfrid Laurier University analyze the data, which has been used to forecast the outdoor skating conditions of the future.

Climate Change at

the Arctic's Edge

This Earthwatch Institute project is based in Churchill, Man., and offers participants an 11-day volunteer experience to work alongside scientists as they monitor impacts of climate change in the area. For summer trips, tasks include taking water samples, surveying local frog and fish populations and measuring the health of the tree line by coring tree trunks. In the winter, volunteers help assess snowpack and analyze snow samples. The 2019 trips cost between $3,675 and $3,995, which includes accommodation, meals and research costs.

CoCoRaHS Canada

This long acronym - CoCoRaHS - stands for the Community Collaborative Rain, Hail & Snow Network, which began at Colorado State University in 1998 and is now sponsored, in part, by the U.S. National Oceanic and Atmospheric Administration. The Canadian network launched in Manitoba in 2011 after severe flooding impacted the province. There are now volunteers across Canada who use rain gauges, which are permanently placed on their properties or in their communities, to measure and map precipitation levels after rain, hail or snow storms. The data, which volunteers add using a website or smartphone app, is available for anyone to use, including scientists and meteorologists working to predict severe weather events associated with climate change.

Classification

Language: ENGLISH

Document-Type: COLUMN

Publication-Type: NEWSPAPER

Subject: CITIZEN SCIENCE (92%); CLIMATOLOGY (91%); BOTANY (90%); CLIMATE CHANGE (90%); EARTH & ATMOSPHERIC SCIENCE (90%); HUMANITIES & SOCIAL SCIENCE (90%); SCIENCE & TECHNOLOGY (90%); BIOLOGY (89%); BIRDS (89%); ENVIRONMENTAL & WILDLIFE ORGANIZATIONS (89%); ENVIRONMENTALISM (89%); CITIZENSHIP (78%); ENVIRONMENT & NATURAL RESOURCES (78%); EXPERIMENTATION & RESEARCH (78%); MODELING & SIMULATION (78%); RESEARCH & DEVELOPMENT (78%); TRENDS (78%); WILDLIFE (77%); BIRDING (75%); CONSERVATION (75%); ISLANDS & REEFS (73%); INTERNET SOCIAL NETWORKING (72%); TRENDS & EVENTS (67%); CHRISTMAS (65%)

Industry: MODELING & SIMULATION (78%); INTERNET SOCIAL NETWORKING (72%); MOBILE APPLICATIONS (61%); MOBILE & CELLULAR TELEPHONES (60%)

Geographic: TORONTO, ON, CANADA (79%); ONTARIO, CANADA (58%); CANADA (90%); NORTH AMERICA (79%); UNITED STATES (79%); CARIBBEAN ISLANDS (71%); LATIN AMERICA (51%)

Load-Date: July 30, 2019

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